



German Hackers Are Building a DIY Space Program to Put Their Own Uncensored Internet into Space

By [Clay Dillow](#) Posted 01.05.2012 at 11:00 am



Syncom 1, the First Geosynchronous Satellite What NASA could do in the 1960s, we can do now. At least, that's the line of thought underpinning the Hackerspace Global Grid, a project that aims to build a space-based network of communications satellites that would freely provide uncensored Internet to users on the ground, taking the power of censorship out of the hands of governments. [NASA](#)

There's more than one way to stick it to The Man. There's civil disobedience, subversive propaganda, political art, outright violent revolt--each possessing its own degree of difficulty and consequence. In a decidedly 21st-century twist, team of German hackers bent on fighting the powers that be has chosen a rather ambitious means of taking the power back: building a [hacker-owned and -operated space program](#), complete with a constellation of communications satellites beaming uncensored Internet to users on the ground.

The [Hackerspace Global Grid](#) was borne out of a call to action at the Chaos Communication Congress in Berlin, where hackers of all stripes gather to mull the issues of the day as they relate to their craft. Hacker activist Nick Farr--motivated by legislation like the Stop Online Piracy Act (SOPA) in the U.S.--called on the community to contribute to a project that would remove the power of censorship from governments and corporations by creating an uncensored Internet in the free frontier of space.

Of course, building both a space program capable of placing satellites in orbit and a terrestrial network of tracking stations is easier said than done. Then again, it's easier now than it's ever been. Space--and even low earth orbit--has long been the dominion of state entities with the resources and large-scale organizations capable of very big undertakings.

But amateur rocketeers are [already skirting the upper atmosphere](#) with homemade rockets, and the idea that amateurs will soon be able to reach low earth orbit is by no means outside the realm of possibility. And even piggybacking on existing space launches, like ISS resupply runs and satellite launches, is growing less expensive, especially for smaller payloads.

Furthermore, if there's anyone suited to the task of building--from the ground up--a system of software and hardware for tracking satellites and establishing a network infrastructure, it's probably a team of highly skilled hackers. That's where the Hackerspace Global Grid is starting. The group is aiming to provide ground stations on a non-profit basis for 100 euros (about \$130), and plans to have three of them deployed this year for testing. And it has already begun trying to build the software infrastructure necessary to track satellites and communicate with them.

The trick will be in the placement of the satellites themselves. Placed in low earth orbit by an amateur launch, the satellites would move too quickly to be of any real use in streaming Internet data to the ground. Placed higher up in geostationary orbit (more than 22,000 miles up), the signal lag becomes great enough to restrict what kind of Internet applications can be executed. And there's also a touchy legal issue at play here, as the [BBC](#) points out. The unregulated nature of space means the Hackerspace group can do what they want. But should a nation like China decide it doesn't want uncensored Internet streaming to its shores from space, there's

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nothing really stopping it from blasting the satellites out of the sky either.

Still, the very notion is undeniably awesome: a DIY space program patched together via a loose affiliation of hackers building an open source generation of space-faring electronics and satellite communications infrastructure that would provide free-flowing information for all. Given recent developments like SOPA, uprisings across the Arab world, and the actions of oppressive regimes like that in Belarus, its clear that the free and fair Internet is both a tool for individual empowerment and an entity whose future is uncertain. Naturally, any effort to secure a free flow of information for all *and* to build a DIY space program in the offing is going to get an enthusiastic nod of approval from us.

[BBC via Slashdot]

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31 COMMENTS

HBillyRufus

01/05/12 at 12:01 pm
While it might be technically easy for China to shoot down the satellites, the resulting clouds of orbiting debris that would endanger everyone's space programs (including China's), are a fact that would make them hesitate. More likely, China would instead try to hack the satellites to make them unusable.
[Link to this comment](#)

Delkomatic

01/05/12 at 12:04 pm
This is awesome where can I donate to help support this!! I would pay a monthly donation to help out if I could!!
[Link to this comment](#)



boka

01/05/12 at 12:31 pm
Excellent. Good for them. USA is trying to everything it can to control the internet.

"In Christianity neither morality nor religion come into contact with reality at any point."
Friedrich Nietzsche
[Link to this comment](#)



Midoman

01/05/12 at 1:17 pm
Its a great concept. Im just scared that at one point your satellite has to relay to some ISP right? well which ISP wants to deal with a hacker group?... You may succeed in creating an uncensored intranet but internet...law may get on your bad side
[Link to this comment](#)

Delkomatic

01/05/12 at 1:26 pm
The point of this is so that it never relays to an ISP...you can get to the internet with out an ISP all ISP's do is give you a connection the the WAN that is the world wide web...they would essentially create their own ISP....
[Link to this comment](#)



Robot

01/05/12 at 1:26 pm
Ultimately the ones who will benefit the most will be the hackers and developers of viruses. If you use this free internet, you might as well just email them voluntarily all the micro details of your life, uncensored of course. lol.

Sure it is a knee jerk reaction to want absolute free speech and free internet; but you putting a blinds eye to the consequences. I see DOOM written all over this.

.....
Science sees no further than what it can sense.
Religion sees beyond the senses.

[Link to this comment](#)

rg-5

01/05/12 at 1:27 pm
I want in! :D

[Link to this comment](#)

rg-5

01/05/12 at 1:28 pm
So I can kill em from within... Rhymes don't it? :)

[Link to this comment](#)

killerT

01/05/12 at 2:22 pm
Anyone could destroy a satellite, and that is my fist thought about this project. It is the beginning of our first war in space, with armed satelllites becoming common.

The hackers might be able to do what they want in space, but terrestrial transmissions to these satellites would still be subject to government control. Also what's to stop governments from just breaking into everyone's house and seizing your computer along with whatever "illegal" files you are sharing?

[Link to this comment](#)



beefymclovín

01/05/12 at 2:32 pm
ill support this. if for nothing else than to show it can be done.

[Link to this comment](#)



Space

01/05/12 at 2:56 pm
Hackers are nice honest decent good-deed people, lol lol lol lol ha hahahahahahaha.....

Say Bob, you want to drive the old Hacker own satillite today. No Sam you drive it and lets see who we can bump into. Oh, look, those Russian and Chinese folks have some cute satillites to mess with. Lets go bump them. They go off line so often, they never suspect us, hahahaha...

Say Sam, reach over that consol and get me a slice of pizza. Sure thing Bob, DAM! I just nocked over my beer!

Oh Bob! lol lol lol, ha ha ha ha...

.....
See life in all its beautiful colors, and from different perspectives too!

[Link to this comment](#)



ghost

01/05/12 at 3:54 pm
hey space; your describing rednecks and hillbillies. hackers would put this in a complicated orbit revolving around the earth, the moon, and time it so that it was running parallel to Haily's comet the next time it came through. just for the blogging credit.

don't knock the hacker movement, for the most part they know their stuff, and they CAN get things done every now and then, but it's simply not a smart idea to piss off the people who break into web sites to learn something new when they are bored.

to mars or bust!

[Link to this comment](#)

01/05/12 at 4:04 pm
ghost,
1. If the hacker is any good, we never really know who he is.



Space

B. If the hacker are rednecks and hillbillies as you suggest, I believe they be smarter than the Russian or Chinese space satellite programs.

4. It was a story, an exaggeration, joking.... sheesh.

.....
See life in all its beautiful colors, and
from different perspectives too!

[Link to this comment](#)

Grant.Upjohn

01/05/12 at 4:42 pm
I agree with the notion of removing censorship from governments, and opening up freedom of speech on a global scale and cheaper more accesible internet globally.
What I would be concerned about is what the repurcusions would be of removing the restrictions on internet piracy.
The whole reason for piracy laws is to ensure that film producers continue to make films, what incentive would there be for Steven Spielberg to make a new movie, if it was going to cost him \$50 million to make (paying actors etc) and he wasn't going to be able to make any money off it because the film is being distributed for free on the internet? Maybe piracy laws aren't the right solution for ensuring the contiunity of movie production, but removing it without having another solution, could result in no more big budget movies.

One option might be for the public to fund all movie productions, so instead of paying for tickets/rentals etc for a movie after it is produced, you pay the costs up front of producing it, then it can be delviered to the public for free. the only way this would work, would be for there to be a global movie production fund, that all governments put a percentage of their GDP into (they may need to have an additional tax on people to provide their quota for the fund), then every year, all new movie ideas get submitted to a global forum to agree on the priority of films that will be produced and agree to the funding from the fund. This shouldn't stop small local film producers from producing films specific to their country, it may just mean there needs to be another way of ensuring things like that also have a means of getting funding, even if just from a local fund.

With films being agreed and funded by the public, then there would be no reason for there to be piracy laws, because we would have all help fund the movies and therefore would have a stake in the ownership of that movie.

I am not against change, or what the hackers represent, I just want to make sure that we understand the potential issues that can come with change. If there are no controls in place, we will have anarchy, but what controls we do have in place shouldn't be suffocating or restrictive, but should ensure people are still held accountable for their actions.

[Link to this comment](#)



Auroria

01/05/12 at 5:12 pm
Ha ha chew, a virus. No virus, its just my sinus acting up as PHobos-Grunt burns up in the atmostphere on a different article.

Would you like a hacker-chiefs.

Now need, out space has many now.:)

[Link to this comment](#)

mattthegamer46

01/05/12 at 6:24 pm
Grant.UpJohn,

This kind of thing already happens on Kickstarter. There are tons of documentaries/films trying to get funding on there. Its a good idea, but on the full scale it would be very difficult.

I don't know why they really need a special uncensored internet. Censorship on the internet, in most countries, is a non-issue. Anything you

can get in trouble for on the internet there (theft, child pornography, piracy) is a crime anyway, your secret special internet would not make you immune to the laws of the country you reside in.

[Link to this comment](#)

AdamWM

01/05/12 at 6:37 pm
Its been a good year for things falling from the sky. Satellites, meteors and mysterious space balls have all had their impact. We now await the Phobos Grunts reentry. China has announced their plans on bumping up their space program and now we have hackers venturing into space. Raining space junk will soon be a occurring daily. Does your insurance cover space debris?

[Link to this comment](#)



Aldrons Last Hope

01/05/12 at 8:43 pm
@grantupjohn you bring up a good point. All of the piracy laws are there to protect the billion\$ mega corporations. I don't care about big budget movies any more, they pander to the lowest common sheep like denominator. Same with commercial music. Indie films, music, art,etc. is where it's at.

It's a new era, new technology and new ways to spread ideas. The old \$\$ fogies are using the only thing they know to protect their power, a pig with a gun.

[Link to this comment](#)

imongi

01/05/12 at 9:49 pm
If the government funded entertainment they would restrict "unfit" content, by refusing to fund it. More censorship, that's not what we need.

[Link to this comment](#)



isitcoldinhere

01/05/12 at 10:13 pm
If my tax money were used for movies I demand quality movies, not crappy remakes, prequels, sequels, or threequels. Also actors wouldn't be paid tens of millions. No one is worth that much.

With regards for this hacker internet, who would buy the receivers? People would need a way to get the signal so they would need satellite receivers to hook modems into. Would the hackers give them out or would people need to buy them? They can't just hook a receiver station into cable/phone lines as governments can just cut the lines.

As for the Chinese shooting them down, they would with little regard of the debris. They did it in 2007 and would do it again if it served their best interest.

Science always asks "can we," but doesn't seem to ask "should we."

[Link to this comment](#)

Delkomatic

01/06/12 at 8:43 am
yeah actors making 10 mill a movie is insane and then they declare bankruptcy really? Any one that has EVER made over 1 mill should NEVER be allowed to file...there should be some kind of a law on that I mean if you suck so bad you burned through millions and millions of dollars buying houses and drugs then you deserve whatever is coming....How bout we put that money back into the economy or people that got you that money or maybe take that 6 mill house you just bought and NOT buy it and start a foundation for vets and active service men and women because hate to tell you Mr/Mrs actor you can't make a movie with out those men and women to protect your bitch ass from getting destroyed by any country or group of people that hate us.

[Link to this comment](#)

D13

01/06/12 at 12:48 pm

Getting the satellites into space is the easy part. Keeping the satellites working is not. Your satellites will need to be cloaked. Any government can fire a laser at your satellite and destroy it. Guide some spacejunk along your satellite path, etc. Also, this is not just hackers sticking it to the man. This is "everyone" sticking it to the idea of government controlled information. They have laws in place to protect the population from sudden panic. They will spare no expense in taking down these satellites. As soon as they are up, they will be broken I assure you.

I am not a nay-sayer. I would love to for govt to get the wakeup call that they need. Basically, the average everyday citizen is evolving. They are alot as smart as you are. Your days of lying to us are numbered. In the near future, I dont think secret satellite networks will be nec. Everyone will have such direct communication and real-time data to everything on the globe. it will be very difficult to hide information.

If these hackers are so good, then take control of the current satellites. Hackers need to build something that can write better code than they can. No offense but Hackers need a supercomputer. Hackers need what super computers can do for them. That is hack code better than them. They need their own "Haxnet". Supercomputers can find ways to execute a wide variety of code to overwhelm any code currently in place. They do it very very fast. Hackers: "Hax send transmission to all major satellites." Hax: "Done".

Write the code that matters. Write the code that can write is own. The ultimate hacker isnt a human. Humans just arent fast enough.

"Do not try and bend the spoon. That's impossible. Instead... only try to realize the truth. There is no spoon."

[Link to this comment](#)

D13

01/06/12 at 12:59 pm
No one doubts that the orbits of the planet are legally open to anyone. However, those who use that space now have amazing strategic military and tehnological advantages. Keeping something there (in orbit) will be next to impossible. Just sayin. Im on board completely with the idea, just dont think its practical to impliment given the current state of things.

Another thing to consider is that Bill Gates tried to put a satellite network in space. It was "teledesec" I believe. It was more than 300 satellites that would have made bandwidth extremely cheap. Scientist at NASA sited that "dispersion" would be an emenant danger. Dipersion being what happens when a satellite blows up and becomes little pieces, due to say a loose bolt traveling at 18k/hr, and then its pieces then fly out in a chain reaction creating a debris cloud that would make future space travels quite impossible.

Think... its legally open to anyone but you have to have the ability to protect it. That empty space up there is not going to just be open to anyone.

"Do not try and bend the spoon. That's impossible. Instead... only try to realize the truth. There is no spoon."

[Link to this comment](#)

mystixa

01/07/12 at 6:28 pm
One of the commenters was worried about content makers in a future era with unlimited piracy. The content makers are and will be fine. The content makers publicly underestimate their worth in order to gather sympathy and legal protections that arent needed for anything more then to increase their profits.

We are already in an era of unbridled piracy.. and those media makers who have kept up with the time use it to their advantage as a free means of promotion.

This argument is akin to the argument when tapes became available. Yet everytime the shareability of media increases so do the profits of those making that media. The packaging, promotion, characterization and intent to support stars for their work is their work. Attempting to legally enforce that is a detriment to both sides.

Profits right now with the 'scourge of piracy' are up for all forms of media.

The only ones suffering are those attempting to hold on to the business model of the 90s and before.

[Link to this comment](#)

twizztedbz81

01/09/12 at 10:15 am
Hell I'll be more than happy to work for them for the Comms links. I already am a Satcom Engineer. As long as the pay is decent that is.

But I foresee this being the first steps to a semi-unregulated free space where Amateur organizations start building their own spacecraft and doing a lot more than just satellites. I know there are already Commercial space programs but my thoughts wander to organizations you can find in a lot of sci-fi or even anime (god forbid) where even "gangs" with the right people are making underground tech and crafts and thus begins an era of piracy and smuggling off planet. That is if this group really gets it done, then it more than likely won't just stop at a few satellites.

[Link to this comment](#)

demosa

01/09/12 at 3:59 pm
So, if this satellite's purpose is to bypass the laws, what would protect it out there from military satellites from being disrupted? I can imagine they have military satellites out there that can shoot down any satellite at will with laser, or some microwave weapon of some sort.

[Link to this comment](#)



slix

01/10/12 at 6:21 pm
China seriously?!? I would be more worried about the US blasting it out of the sky, all they have to say is that terrorists are using it against the security of the nation and that thing is history

[Link to this comment](#)

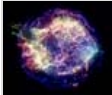


Bridgebrain

01/10/12 at 8:03 pm
@killerT: Entire nations of pissed off people with guns.

I'm in. I have 5 satellite dishes and assorted components, so I could probably help rig up a micro tracking station with it and share the designs.

[Link to this comment](#)



Lapinski

01/13/12 at 1:16 pm
They better be willing to provide some major energy to securing the thing. China wouldn't try to shoot it down, they would just hack it and program it to crash its self.

[Link to this comment](#)

psciz

01/19/12 at 11:13 pm
With what I have read about how difficult it is to avoid the increasing cloud of space junk we already have circling the globe, I would think that if someone who currently HAS a space presence, be it satellites, space stations, rockets, whatever, wanted to disable a newly launched satellite, it could be done simply by helping to put some space junk on a collision course with the new satellite. And it might not be easy to determine who did it or how. So these hackers put up their shiny new satellite, and suddenly it stops working. Would they ever really know why? It isn't like they have anyone who could fly up there and inspect it. Even if they did determine it was struck by something, how would they ever know what hit it and where the object originated? If someone with the means decides they don't like this project, it won't work out very well for the hackers, and no practical evidence left behind.

[Link to this comment](#)

quasi44

04/20/12 at 11:34 pm

Yeah, a satellite is too problematic. We need a public beamline that can be accessed anywhere. Terahertz band cellphones using the newly rediscovered Shottky diode. It's the logical way to house an internet for the future where our open-air bandwidth is no longer sufficient. We don't really need the satellite grid and all the artificial bs via restricting use, which is how all the telecomms make their bucks off of what we paid to develop, and who's access should be a basic human right.

[Link to this comment](#)

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